

PURCHASE DESCRIPTION

OPTICAL LOSS TEST SET

TSZAA-C

1.0 GENERAL This procurement requires a lightweight optical loss test set. It may be used as a power meter, loss test set, or optical source.

2.0 CLASSIFICATION The optical loss test set described herein shall meet the requirements of MIL-T-28800(), Type III, Class 5, Style E, Color R for the Navy shipboard, submarine, and shore applications with the following exceptions:

- a. The relative humidity requirement is limited to 95% non-condensating.
- b. The Electromagnetic Interference requirements of MIL-T-28800() are limited to CE01, CE03, CS01, CS02 (0.05 to 100 MHz), CS06, RE01 (back panel search excluded), RE02 (14 kHz to 10 GHz), and RS03.
- c. The warm-up time for source stability is 30 minutes.

3.0 OPERATIONAL REQUIREMENTS The equipment shall be capable of performing optical loss measurements and generating optical signals within the parameters and accuracies specified herein.

3.1 Optical Loss (Power Meter)

3.1.1 Wavelength Range: At least 800-1650 nm

3.1.2 Measurement Range: 0 to -60 dBm

3.1.2.1 Auto Range selection with Hold Range feature

3.1.3 Accuracy: $\pm 5\%$ [Level > -20 dBm @ 1300 nm]

3.1.4 Display: Digital

3.1.4.1 Parameters: (1) Power level in dBm/watts; (2) Wavelength in nm; (3) Low battery indicator

3.1.4.2 Type: LCD (backlit)

3.1.4.3 Resolution: At least 4 digits for power / 0.01 dB

3.1.5 Input Connector: ST

3.1.6 Averaging ON/OFF: Capability to average more than one reading

3.2 Optical Source (Plug-in replaceable)

3.2.1 Wavelength: 1300 \pm 40 nm (multimode)

3.2.1.1 Bandwidth: < 150 nm

3.2.2 Output power: > -25 dBm (into 50/125 μ m)

3.2.2.1 Level Stability vs Temp: < 1.0 dB [0 - 50°C]

3.2.2.2 Level Stability vs Time: <0.1 dB (at constant temp $\pm 0.5^\circ\text{C}$) [4 hrs]

3.2.3 Output Connector: ST

4.0 GENERAL REQUIREMENTS

4.1 Power DC battery for portable operation

4.1.1 DC Operating Time:

4.1.1.1 Power Meter Mode: At least 9 hours

4.1.1.2 Loss Mode: At least 4 hours

4.1.2 AC Operation: External adapter provides DC to input jack.
AC Voltage: 115/230 $\pm 10\%$

4.1.3 Auto Power OFF: Automatic turn off if no key pressed

4.1.3.1 Time Interval: At least 5 min; less than 10 min

4.2 Lithium Batteries Per MIL-T-28800, lithium batteries are prohibited without prior authorization. Requests for approving the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.

4.3 Dimensions Less than 20.32 cm (8 in) height; 10.16 cm (4 in) width; 5.08 cm (2 in) depth

4.4 Weight 1 kg (2.2 lb) max (including source, sensor, and batteries)

4.5 Calibration Interval The calibration interval shall be 12 months minimum. The equipment shall be within all accuracy requirements specified herein, with a 72% or greater confidence factor following a calibration interval of 12 months.

4.6 Transit Case A protective carrying case shall be provided for transporting the test set.